

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2005/007276

International filing date (day/month/year)
08.04.2005

Priority date (day/month/year)
15.04.2004

International Patent Classification (IPC) or both national classification and IPC
H05K13/04

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/007276

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/007276

Box No. V Reasoned statement under Rule 43*b*/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	1-10
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1. Reference is made to the following document:
D1 : PATENT ABSTRACTS OF JAPAN , vol. 1999, no. 10, 31 August 1999 (1999-08-31) &; JP 11 135563 A (MATSUSHITA ELECTRIC IND CO LTD), 21 May 1999 (1999-05-21).
2. Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):
an electronic component mounting apparatus and an electronic component mounting method for mounting electronic components to a substrate while heating the electronic components, each of the electronic components having an adhesive layer on a surface to be bonded to the substrate, wherein a mounting head is provided with an electronic component heating device (see paragraphs [0013]-[0018] and Fig. 2).
- 2.1 The subject-matter of independent device and method claims 1 and 6 differ from what is known from D1 by the following method steps (claim 6) and corresponding controller operation (claim 1):
an electronic component heating step for heating electronic components from a moment when the holding tools pick up the components until another moment when the tools release the components after mounting them to the substrate retainer, wherein the electronic component heating step comprises a first heating time of a duration from the moment when the holding tool comes into contact with the component for picking it up till another moment immediately before the tool begins a mounting operation to the substrate, and a second heating time of a duration from the moment of a duration from the moment when the tool begins the mounting motion till another moment when the holding tool leaves the component mounted on the substrate, and the first heating time is set longer than the second heating time.

The subject-matter of claims 1 and 6 is therefore novel (Article 33(2) PCT)

- 2.2 The problem to be solved by the present invention may be regarded as to shorten the time for the mounting work and improve productivity.

The available documents belong to the technological background and do not provide any indication to the above solution of the problem. Therefore, the solution to the problem proposed in claims 1 and 6 of the present application is considered as involving an inventive step (Article 33(3) PCT).

- 2.3 Claims 2-5 and 7-10 are dependent claims and as such also meet the requirements of the PCT with respect to novelty and inventive step.